Conservation Biology Lab (EBIO324/EBIO524); Spring 2019

Instructor
Cassidy B. Johnson, Ph.D.
Office Hours: Friday by appointment – please email to me to arrange a time!
Email: cbj5145@rice.edu

Meeting Times
Location: Rayzor Hall, 123
Time: Friday, 1PM-5PM

Textbook
No textbook will be required for this course. Required documents and readings will be provided on the course's Canvas page. Additional readings, resources, or other course documents will also posted in Canvas.

Additional materials
The field equipment and reference guides needed for the course will be provided. Several of the class meetings will take place outdoors and students will need to prepare appropriately (closed-toed shoes, long pants, hat, sunscreen, water bottle are encouraged).

Course overview and description
This one-credit laboratory course is designed to address an authentic, local conservation issue facing the greater Houston area. Students will be responsible for the project design, the collection and analysis of data, and the dissemination of that data using communication methods suitable for a general audience. Students enrolled in EBIO324/524 are encouraged to have previously taken or be simultaneously enrolled in EBIO323; however, some exceptions may be given on an individual basis. Conservation biology is a multidisciplinary field; therefore, students from all academic fields are welcome to participate.

This semester, students in the course have been challenged by Rice University's Arboretum Committee to research and propose an urban "reconciliation" project in the Harris Gully Natural Area, a campus green space adjacent to Wiess College. The conservation plans will be presented to the Arboretum Committee at the end of the semester. The committee is developing a restoration plan for the HGNA, and will use the student project ideas during the planning process; therefore, students in the course have an opportunity to make a lasting, conservation impact on both Rice campus and the greater Houston community.

Course objectives
1. To gain an authentic experience in the design and implementation of a conservation-based project.
2. To gain familiarity with the benefits and challenges of the field of conservation and the concept of "reconciliation ecology."
3. To gain familiarity concerning the use biodiversity metrics for conservation practices and decision-making.
4. To synthesize a summary report of the research, including recommendations for continued conservation practices based on the data collected.
5. To gain experience designing effective conservation communication and/or

educational strategies geared towards a non-science audience.

By the end of the course, you will be expected to:
1. Understand methods used to investigate and analyze biodiversity, with a focus on the challenges of working in urban settings.
2. Be able to synthesize scientific data into a written document, which will include an analysis and recommendations based on the data.
3. Be familiar with a diversity of methods and strategies that can be used to disseminate scientific information to a general audience.
4. Understand the role that urban conservation has in encouraging awareness in regards to habitat loss and global species decline.
5. Work collaboratively to design and implement a community-based project.

Grading:
Grades will be calculated out of 325 points. Grades will be distributed as follows: ≥90% A, 80-89% B, 70-79% C, 60-69% D, ≤59% F.

Assignments	pts	%
College natural area & site sketch presentation	15	4.6%
Project pitch (group)	50	15.4%
Project Presentation (group)	100	30.8%
Written proposal (group)	100	30.8%
Peer eval	10	3.0%
Class participation	50	15.4%
Total	325	100%

Details concerning graded assignments:

College natural area & site sketch presentation (15pts total):
Students will chose a habitat area to focus their research. In groups, students will look up other institutions that have similar, reconstructed habitats and report on those projects in a short presentation. The group will also put together a sketch of their assigned area with some preliminary ideas for the restoration for the class to discuss.

Project pitch (50pts total): The project pitch is a short, group presentation where students will have an opportunity to both explain and also receive feedback on their project. Additional details regarding this project are in Canvas.

Project Presentation & Written proposal (200pts total): The final project presentation and written proposal will be a culmination of each group's research on the restoration plan. Additional details regarding both of these final projects are in Canvas.

Peer eval (10pts total): Students will have an opportunity to evaluate themselves and their group members at the conclusion of the course.

Participation (50 pts): Participation will be evaluated in several ways, including class discussion opportunities (15pts), drafting and asking questions to experts (20pts), field trip attendance (5pts), and class attendance (10pts).

Additional note: Because this course meets only once a week, students should not plan on missing more than three class periods (this will result in a loss of all of your participation points = 15.4% of your grade). If you expect that you will miss more than two classes, you must discuss this with me in advance. I will determine on a case-by-case basis if you can make up some of the points by doing additional work for your group, or by participating in an additional activity outside of class.

Graduate student (524) projects: Graduate students will participate in all of the above assignments; however, the assignment will vary in scope. A thorough write up of the major project assignments are in Canvas.

Disabilities:
Any student with a disability that requires accommodation is encouraged to speak with me within the first two weeks of the class. The student is additionally encouraged to contact the Director of Disabled Student Services in the Ley Student Center.

Honor code:
Collaboration with classmates is encouraged in this class. Any use of published and unpublished research, websites, or personal communication with experts needs to be clearly stated in presentations and in written documents. If you have any questions about a potential violation about the Rice University Honor Code, please contact me.

Course Schedule (subject to change due to weather)
The course meets on Friday in Rayzor Hall room 123 from 1PM – 5PM. Changes to the meeting location or time will be communicated to students ASAP. I will do my best to adhere to the schedule; however, I reserve the right to modify the schedule due to bad weather, or changes in the schedules of the invited guests.

Date	Activity
11-Jan	Course introduction: Urban conservation: Rewilding and reconcilation ecology; visit HGNA *HW: Read Ecology of Urban Green Space for next week*
18-Jan	Paper discussion roundtable; Walking tour of Hermann Park & MD Anderson prairies; Choose habitat topic & select groups *HW: Research other projects and produce sketch of restoration area*
25-Jan	**College natural area presentations and site sketch & discussion** In class: Data collection brainstorming session & materials "roundup" *HW: Groups generate ~5 restoration questions for HANC staff*
1-Feb	Field trip to Houston Arboretum & Nature Center* *HW: Read article & watch video on endangered species in cities; Groups generate 5 questions about restoration for guests 2/15*
8-Feb	*Spring recess; No class*
15-Feb	Guests Kelli Onracek (HPARD) and Stephen Benigno (HCFCD) Data collection brainstorming session & materials "roundup" con't *HW: Watch video on Reimagining public space*
22-Feb	Data collection work day
1-Mar	**Project pitch presentations**
8-Mar	Data collection work day
15-Mar	*No class; Spring Break*
22-Mar	Data collection work day
29-Mar	Data collection workday **Turn in rough draft/outline of written paper by 11:59PM**
5-Apr	Data collection work day
12-Apr	Group mock presentations
19-Apr	**Final project presentations & Written proposal due by 11:59PM**